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**Docket No. ATOTP0104US****Serial No. 10/606,460**

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**Remarks**

Upon entry of the present reply, claims 28-31, 36-42, 50, 51, 55-62, 66-93 are pending in the application. The remaining claims either have been previously or are herein canceled.

Claims 28, 36, 39, 40, 55, 56, 58, 60, 66, 67 and 72 are amended herein. The independent claims 28, 36, 40 and 60 have been amended to specify the inhibitors, and to make more clear that the process is an immersion plating process. Support for these amendments may be found in the claims as originally filed. Claim 39 is amended to make it grammatically correct. Claims 55, 56 and 58 are amended to depend from claim 28. Claim 66 is amended to depend from claim 60. Claims 67 and 72 are amended to refer to the mercapto substituted nitrogen containing heterocyclic compound now specified in claims 60 and 36, respectively.

New claims 73-93 have been added herein. These dependent claims all correspond to dependent claims previously submitted, but in some cases the same dependent claims were not repeated for each independent claim. Thus, the following new claims correspond to the previously pending claims:

Claims 73 and 82 correspond to claims 55 and 66.

Claims 74 and 84 correspond to claims 59 and 70.

Claims 75, 81 and 93 correspond to claim 62.

Claims 76 and 85 correspond to claims 51 and 69.

Claims 77 and 88-90 correspond to claims 29-31 and 37-39.

Claim 78 corresponds to claim 57.

Claim 79 corresponds to claim 58.

Claim 80 corresponds to claims 50, 61 and 71.

Claim 83 corresponds to claims 56, 67 and 72.

Claims 86 and 92 correspond to claim 68.

Claims 87 and 91 correspond to claims 36 and 60.

Applicants respectfully request reconsideration of the claims of the present application based on the foregoing amendments and the following points.

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In the Office action, the claims were rejected as lacking enabling disclosure for the full range of inhibitors recited in the independent claims. Applicants have amended the independent claims to more specifically recite the inhibitors and respectfully submit that the recited inhibitors are fully enabled by the specification, as stated by the Examiner.

Accordingly, Applicants respectfully request withdrawal of this ground of rejection.

**Rejections of Claims 28-31, 36-42, 50-59, 60-67, 71 and 72**

Claims 28-31, 36-42, 50-59, 60-67, 71 and 72 all stand rejected over the basic combination of Heiman, US 2580773 in view of Eckles, US 5405523, together with various tertiary references cited and invoked as needed to find all of the various features of the claimed invention. Applicants respectfully traverse the rejections of all these claims as based on Heiman in view of Eckles, with or without the secondary references.

The claims have been amended to clarify what has always been an element of the claimed invention, i.e., that the process includes *immersion plating* and to specify the inhibitors. Applicants respectfully submit that no combination of Heiman in view of Eckles, with or without the secondary references, discloses or suggests all of the features of Applicants' claims, and that Applicants' claims therefore patentably distinguish over the prior art and are allowable.

Heiman teaches an immersion plating solution for depositing zinc on aluminum by a displacement plating reaction.

As admitted by the Examiner, Heiman fails to disclose any of the claimed (1) pH of the solution; (2) the presence of any inhibitor; or (3) the amounts of each material in the bath; the presence of complexing agent or the specific inhibitors.

The Examiner attempted to fill these gaps by reference to Eckles, which as the Examiner also admitted, relates to electroplating. As Applicants have argued throughout the prosecution of this application, due to the many and well known differences between electroplating and immersion plating, the chemistry used in electroplating is not applicable to immersion plating, and for this reason alone, Applicants respectfully submit that Eckles

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in combination with Heiman could not have rendered obvious the presently claimed invention. The differences between electroplating and immersion plating are deep and fundamental. Most obviously, immersion plating requires no externally applied electrical current to carry out the metal deposition as does electroplating. In immersion plating, the electrons are supplied by the base metal, which effectively acts as a reducing agent. Furthermore, the chemistry of the two kinds of baths is completely different. Thus, the person of ordinary skill in the art would not consider any chemistry taught by Eckles in its electroplating as being applicable to or providing any possibility of a reasonable expectation of success in modifying the immersion plating process of Heiman. There would be neither motivation nor reasonable expectation of success in any such modification.

Another part of the basis for the rejections over Heiman in view of Eckles is that Eckles discloses a brightener that contains a quaternary ammonium polymer, i.e., a nitrogen containing compound. The possibility that the brighteners of Eckles could fall within the scope of the claimed inhibitors has been eliminated by Applicants' amendment of the claims.

For these reasons, Applicants respectfully request the Examiner to withdraw the rejections of all of the pending claims over the contended combinations of references all based on Helman in view of Eckles.

### Conclusion

In view of the amendments to the claims and the foregoing remarks, it is respectfully submitted that all of the claims presently in the application fully patentably distinguish over the prior art and are in condition for allowance. Notice to such effect is respectfully requested.

In the event issues arise as a result of the filing of this paper, or remain in the prosecution of this application, Applicants request that the Examiner telephone the undersigned attorney to expedite allowance of the application.

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Applicants submit that no additional claim fees are due for the newly added claims. A total of 49 claims, including 4 independent claims, are presently pending in the application, upon entry of the present Reply. The claim fees for a total of 49 claims, including 3 independent claims, was paid when the application was originally filed on 26 June 2003. The additional fee for one additional independent claim was paid in the Reply to Office Action Mailed 25 February 2005, which was filed by Applicants on 03 March 2005. Accordingly, no additional claim fee are believed due for the filing of this paper.

Should a Petition for Extension of Time be necessary for the present Reply to the outstanding Office action to be timely filed (or if such a petition has been made and an additional extension is necessary) petition therefor is hereby made and, if any additional fees are required for the filing of this paper, the Commissioner is authorized to charge those fees to Deposit Account #18-0988, Docket No. ATOTP0104US.

Respectfully submitted,

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